AMENDMENTS TO THE CLAIMS

1. **(Previously presented)** A method of producing a polymer composition, comprising:

mixing an ethylene-α-olefin elastomer and a polyolefin resin to provide a mixture thereof, wherein said ethylene-α-olefin elastomer has an ethylene content of from about 30 wt% to about 75 wt% without diene components;

pelletizing the mixture;

drying the pelletized mixture;

adding to the mixture one or more monomers comprising an unsaturated organic compound containing at least one carbonyl group, and a processing oil;and

polymerizing one or more monomers in the presence of a grafting initiator, wherein polymers of the one or more monomers graft from a backbone of the ethylene-α-olefin elastomer.

2. **(Cancelled)**

3. **(Original)** The method of Claim 1, wherein the polymerization is performed while blending the one or more monomers with the mixture.

4. **(Original)** The method of Claim 1, wherein the polymerization is performed in a twin-screw extruder.

5. **(Original)** The method of Claim 1, wherein the initiator comprises dialkyl peroxide.

6. **(Original)** The method of Claim 5, wherein the initiator is added in an amount of from about 0.01 to about 1.0 wt% of the total weight of the polymer composition.

7. **(Original)** The method of Claim 1, further comprising pelletizing the resultant of the polymerization.

8. **(Original)** The method of Claim 1, wherein the mixing is performed at a temperature from about 150 to about 250 °C.

9. **(Original)** The method of Claim 1, wherein the mixing is performed at a temperature from about 180 to about 200 °C.

10. **(Cancelled)**

11. **(Original)** The method of Claim 10, wherein the processing oil is added in an amount of about 2 wt% or less of the total weight of the polymer composition.

12. **(Original)** The method of Claim 10, wherein the processing oil has an aromatic carbon content of about 0.5 wt% or less.

13. **(Previously presented)** The method of Claim 1, wherein the ethylene-α-olefin elastomer is selected from the group consisting of ethylene-propylene rubber, ethylene-butene rubber, ethylene-octene rubber, and mixtures thereof.

14. **(Cancelled)**

15. **(Cancelled)**

16. **(Original)** The method of Claim 1, wherein the ethylene-α-olefin elastomer has an ethylene content of from about 40 wt% to about 70 wt%.

17. **(Original)** The method of Claim 1, wherein the ethylene-α-olefin elastomer has an ethylene content of from about 50 wt% to about 60 wt%.

18. **(Original)** The method of Claim 1, wherein the ethylene-α-olefin elastomer is in an amount of from about 40 wt% to about 95 wt% of the total weight of the polymer composition.

19. **(Original)** The method of Claim 1, wherein the polyolefin resin is selected from the group consisting of high density polyethylene, low density polyethylene, linear low density polyethylene, very low density polyethylene, homo polypropylene, block polypropylene, random polypropylene and mixtures thereof.

20. **(Original)** The method of Claim 1, wherein the polyolefin resin has a fluidity of from about 0.5 to about 60 (g/10 min).

21. **(Original)** The method of Claim 1, wherein the one or more monomers are selected from the group consisting of carboxylic acid, maleic anhydride, and salts of esters.

22. **(Original)** The method of Claim 1, wherein the one or more monomers are in an amount from about 0.2 to about 10 wt% of the total weight of the polymer composition.

23. **(Original)** The method of Claim 1, wherein the one or more monomers are in an amount from about 0.5 to about 7 wt% of the total weight of the polymer composition.

24. **(Original)** The method of Claim 1, wherein the one or more monomers are in an amount from about 1 to about 3 wt% of the total weight of the polymer composition.

25. **(Original)** A polymer composition produced by the method of Claim 1.

26. **(Previously presented)** A polymer composition, comprising:

a polyolefin resin;

a chemically modified ethylene-α-olefin elastomer mixed with the polyolefin resin, wherein the ethylene-α-olefin elastomer has an ethylene content of from about 30 wt% to about 75 wt% without diene components;

a processing oil; and

wherein the chemically modified ethylene-α-olefin elastomer comprises an ethylene-α-olefin backbone and grafted branches from the backbone, wherein the branches comprise polymers of one or more monomers comprising an unsaturated organic compound containing at least one carbonyl group.

27. **(Original)** The polymer composition of Claim 26, wherein at least part of the polyolefin resin is in a chemically modified form with grafted branches, and wherein the grafted branches of the polyolefin resin comprises polymers of one or more monomers comprising an unsaturated organic compound containing at least one carbonyl group.

28. **(Cancelled)**

29. **(Original)** The polymer composition of Claim 26, further comprising a processing oil mixed therewith.

30. **(Original)** The polymer composition of Claim 29, wherein the processing oil is in an amount of about 2 wt% or less of the total weight of the polymer composition.

31. **(Original)** The polymer composition of Claim 28, wherein the processing oil has an aromatic carbon content of about 0.5 wt% or less.

32. **(Currently amended)** The polymer composition of Claim 26, wherein the ethylene-α-olefin elastomer is selected from the group consisting of ethylene-propylene rubber, ethylene-butene rubber, ethylene-octene rubber, ~~ethylene-propylene-diene rubber, ethylene-butene-diene rubber, ethylene-octene-diene rubber,~~ and mixtures thereof.

33. **(Cancelled)**

34. **(Original)** The polymer composition of Claim 26, wherein the ethylene-α-olefin elastomer has an ethylene content of from about 40 wt% to about 70 wt%.

35. **(Original)** The polymer composition of Claim 26, wherein the ethylene-α-olefin elastomer has an ethylene content of from about 50 wt% to about 60 wt%.

36. **(Original)** The polymer composition of Claim 26, wherein the ethylene-α-olefin elastomer is in an amount of from about 40 wt% to about 95 wt% of the total weight of the polymer composition.

37. **(Original)** The polymer composition of Claim 26, wherein the polyolefin resin is selected from the group consisting of high density polyethylene, low density polyethylene, linear low density polyethylene, very low density polyethylene, homo polypropylene, block polypropylene, random polypropylene and mixtures thereof.

38. **(Original)** The polymer composition of Claim 26, wherein the one or more monomers are selected from the group consisting of carboxylic acid, maleic anhydride, and salts of esters.

39. **(Original)** The polymer composition of Claim 26, wherein the grafted polymers of one or more monomers are in an amount from about 0.2 to about 10 wt% of the total weight of the polymer composition.

40. **(Original)** The polymer composition of Claim 26, wherein the grafted polymers of one or more monomers are in an amount from about 0.5 to about 7 wt% of the total weight of the polymer composition.

41. **(Original)** The polymer composition of Claim 26, wherein the grafted polymers of one or more monomers are in an amount from about 1 to about 3 wt% of the total weight of the polymer composition.

42. **(Original)** A method of improving impact strength of a plastic material, comprising:

providing the polymer composition of Claim 26; and

blending the polymer composition with a plastic material selected from the group consisting of nylons, acrylonitrile butadiene styrene (ABS) resins, polycarbonate, polyisobutylene, polybutene, polyvinylchloride (PVC), ethylene acrylate copolymer, high density polyethylene, low density polyethylene, linear low density polyethylene, very low density polyethylene, homo polypropylene, block polypropylene, random polypropylene and mixtures thereof.

43. **(Original)** The method of Claim 42, wherein the polymer composition provided is in the form of pellets.

44. **(Original)** The method of Claim 42, wherein the nylons comprise nylon 6 and nylon 66.

45. **(Previously presented)** The method of Claim 1 wherein the ethylene-α-olefin is composed of ethylene and propylene.

46. **(Previously presented)** The polymer composition of Claim 26, wherein the ethylene-a-olefin is composed of ethylene and propylene.